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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,538	11/14/2003	Roberto Bez	2110-62-3	7956

7590 04/03/2007
GRAYBEAL JACKSON HALEY LLP
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Bellevue, WA 98004-5973

EXAMINER

SMITH, BRADLEY

ART UNIT	PAPER NUMBER
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2891

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/713,538

Applicant(s)

BEZ ET AL.

Examiner

Bradley K. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-23, 26-29, 31, 33-39 and 49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-29, 31, 33 and 49 is/are allowed.
- 6) ☒ Claim(s) 19-23 and 34-38 is/are rejected.
- 7) ☒ Claim(s) 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Mori (US Patent 6,794,708). Mori disclose a semiconductor body having a substrate a pair of insulation structures disposed in the substrate, delimiting an active area of the substrate, and each having respective portions projecting from said substrate, the projecting portions defining a recess over a portion of the active area and over a portion of at least one of the insulation structures; and a memory cell having body region disposed in the portion of the active area, insulator disposed over the body region (12), a floating gate (22) disposed in the recess over the body region and over the portion of the at least one insulation structure, and a control gate (28) disposed over the floating gate (see figure 14d in the cell array). With regards to claim 20, Mori disclose said projecting portions define the recesses over respective portions of both of the insulation structures and said floating gate is disposed over the respective portions of both the

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insulating structures (see figure 14d). With regards to claim 21 and 31, Mori disclose does the floating gate does not extend above the projecting portions of the insulating structures (see figure 30). With regards to claim 22, Mori disclose does the floating gate does not extend beyond the projecting portions (see figure 14d). With regards to claim 23, Mori disclose does disclose the floating gate has a surface facing the control gate and the surface is planar (see figure 30 and figure 14d).

Claims 34-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Chien et al. (US Patent 7,170,786). Chien discloses a substrate; a first isolation region disposed in the substrate and defining a recess that is bounded by the first isolation region on at least two sides, the first isolation region (104) having a first depth beneath the recess and a second depth outward from the recess along at least one of the at least two sides, the first depth being greater than or equal to the second depth; and a first conductor (106) disposed in the recess (see figure 7j). With regards to claim 35, Chien disclose the first insulator comprises projections that define the recess (see figure 7j). With regards to claim 36, Chien disclose a trench disposed in a substrate and the insulator being disposed in the trench. With regards to claims 37 the examiner takes official notice that conductive regions inherently have resistivity and could be considered a resistor. With regards to claim 38, the examiner takes official notice that any conductive surface could be used a plate capacitor.

Allowable Subject Matter

Claims 26-29, 31, 33 and 49 are allowed.

Claim 39 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest, within the context of the entire claim a substrate having an active region; first and second insulators disposed adjacent to the active region and defining a recess over a portion of the active region and over a portion of at least one of the first and second insulators; a body region of a memory cell disposed in the portion of the active region; a first gate insulator disposed over the body region; and a floating gate of the memory cell disposed in the recess over the gate insulator and over the portion of at least one of the first and second insulators but not extending beyond the recess in a dimension parallel to a surface of the active region (claims 26-29, 31, 33), a second insulator disposed on the first conductor; and a second conductor disposed on the second insulator and overlapping the first conductor (claim 39), and a substrate having an active region; first and second insulators disposed adjacent to the active region and defining a recess over a portion of the active region and over a portion of at least one of the first and second insulators; a body region of a memory cell disposed in the portion of the active region; a first gate insulator disposed over the body region; and a floating gate of the memory cell disposed in the recess over the gate insulator and over the portion of one of the insulators (claim 49).

Response to Arguments

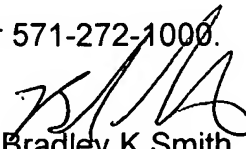
Applicant's arguments with respect to claims 19-23 and 34-38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley K. Smith whose telephone number is 571-272-1884. The examiner can normally be reached on 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Bradley K Smith
Primary Examiner
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